Unpublished Digital Geologic-GIS Map of Buffalo National River and Vicinity, Arkansas (NPS, GRD, GRI, BUFF, BUFF digital map) adapted from ARGS DGM-AR Maps by Ausbrooks, Chandler, Smart, Hutto, Braden, Nondorf, Johnson, and Traywick (2008 to 2012), USGS SIM Maps by Hudson, Turner, Pezzutti and Repetski (2003 to 2018), and a USGS MF Map by Hudson and Murray (2003)

Metadata also available as

Frequently-anticipated questions:

What does this data set describe?

Title:
Unpublished Digital Geologic-GIS Map of Buffalo National River and Vicinity, Arkansas (NPS, GRD, GRI, BUFF, BUFF digital map) adapted from ARGS DGM-AR Maps by Ausbrooks, Chandler, Smart, Hutto, Braden, Nondorf, Johnson, and Traywick (2008 to 2012), USGS SIM Maps by Hudson, Turner, Pezzutti and Repetski (2003 to 2018), and a USGS MF Map by Hudson and Murray (2003)

Abstract:
The Unpublished Digital Geologic-GIS Map of Buffalo National River and Vicinity, Arkansas is composed of GIS data layers and GIS tables in a 10.1 file geodatabase (buff_geology.gdb), a 10.1 ArcMap (.mxd) map document (buff_geology.mxd), individual 10.1 layer (.lyr) files for each GIS data layer, an ancillary map information document (buff_geology.pdf) which contains source map unit descriptions, as well as other source map text, figures and tables, metadata in FGDC text (.txt) and FAQ (.pdf) formats, and a GIS readme file (buff_geology_gis_readme.pdf). Please read the buff_geology_gis_readme.pdf for information pertaining to the proper extraction of the file geodatabase and other map files. To request GIS data in ESRI 10.1 shapefile format contact Stephanie O'Meara (stephanie.omeara@colostate.edu; see contact information below). The data is also available as a 2.2 KMZ/KML file for use in Google Earth, however, this format version of the map is limited in data layers presented and in access to GRI ancillary table information. Google Earth software is available for free at: <http://www.google.com/earth/index.html>. Users are encouraged to only use the Google Earth data for basic visualization, and to use the GIS data for any type of data analysis or investigation. The data were completed as a component of the Geologic Resources Inventory (GRI) program, a National Park Service (NPS) Inventory and Monitoring (I&M) Division funded program that is administered by the NPS Geologic Resources Division (GRD). Source geologic maps and data used to complete this GRI digital dataset were provided by the following: Arkansas Geological Survey and U.S. Geological Survey. Detailed information concerning the sources used and their contribution the GRI product are listed in the Source Citation section(s) of this metadata record (buff_geology_metadata.txt or buff_geology_metadata_faq.pdf). Users of this data are cautioned about the locational accuracy of features within this dataset. Based on the source map scale of 1:24,000 and United States National Map Accuracy Standards features are within (horizontally) 12.2 meters or 40 feet of their actual location as presented by this dataset. Users of this data should thus not assume the location of features is exactly where they are portrayed in Google Earth, ArcGIS or other software used to display this dataset. All GIS and ancillary tables were produced as per the NPS GRI Geology-GIS Geodatabase Data Model v. 2.3. (available at: <http://science.nature.nps.gov/im/inventory/geology/GeologyGISDataModel.cfm>). The GIS data projection is NAD83, UTM Zone 15N, however, for the KML/KMZ format the data is projected upon export to WGS84 Geographic, the native coordinate system used by Google Earth. The data is within the area of interest of Buffalo National River.

Supplemental_Information:
The data layers (feature classes) that comprise the Unpublished Digital Geologic-GIS Map of Buffalo National River and Vicinity, Arkansas include: BUFFGLG (Geologic

Units), BUFFGLGA (Geologic Contacts), BUFFHZA (Hazard Area Features), BUFFFLD (Folds), BUFFFLT (Faults), BUFFSEC (Geologic Cross Section Lines), BUFFCN1 (Structure Contour Lines, Base of Middle Bloyd Sandstone, Bloyd Formation (PNbm)), BUFFCN2 (Structure Contour Lines, Top of Boone Formation (Mbmb)), BUFFCN3 (Structure Contour Lines, Base of Boone Formation (Mbmb)), BUFFATD (Geologic Attitude Observation Localities), BUFFGML (Geologic Measurement Localities), BUFFGPF (Geologic Point Features), BUFFGPT (Point Geologic Units), BUFFGSL (Geologic Sample Localities), BUFFSYM (Map Symbology), BUFFGOL (Geologic Observation Localities), BUFFGLN (Linear Geologic Units) and BUFFHZAA (Hazard Area Feature Boundaries). There are three additional ancillary map components, the Geologic Unit Information Table (buffunit) Table, the Source Map Information Table (buffmap), and the Ancillary Map Information Document (buff_geology.pdf). Refer to the NPS GRI Geology-GIS Geodatabase Data Model v. 2.3 (available at: <http://science.nature.nps.gov/im/inventory/geology/GeologyGISDataModel.cfm>) for detailed data layer (feature class) and table specifications including attribute field parameters, definitions and domains, and implemented topology rules and relationship classes. For the KML/KMZ format all or only some of the data layers are available. The KMZ file also possesses on-line links to the GRI program and its products, and to this readme document, the FAQ metadata, and the GRI ancillary map information document pertaining to this dataset/map.

1. **How should this data set be cited?**

   National Park Service (NPS) Geologic Resources Inventory (GRI) program, 20180917, Unpublished Digital Geologic-GIS Map of Buffalo National River and Vicinity, Arkansas (NPS, GRD, GRI, BUFF, BUFF digital map) adapted from ARGS DGM-AR Maps by Ausbrooks, Chandler, Smart, Hutto, Braden, Nondorf, Johnson, and Traywick (2008 to 2012), USGS SIM Maps by Hudson, Turner, Pezzutti and Repetski (2003 to 2018), and a USGS MF Map by Hudson and Murray (2003).

2. **What geographic area does the data set cover?**

   West_Bounding_Coordinate: -93.5001866954
   East_Bounding_Coordinate: -92.3751583244
   North_Bounding_Coordinate: 36.2500712953
   South_Bounding_Coordinate: 35.8750755354

3. **What does it look like?**

   Not applicable
   No browse graphic provided

4. **Does the data set describe conditions during a particular time period?**

   Calendar_Date: 17-Sep-2018

Currentness_Reference: ground condition

5. **What is the general form of this data set?**

   Geospatial_Data_Presentation_Form: map

6. **How does the data set represent geographic features?**
   a. **How are geographic features stored in the data set?**
   b. **What coordinate system is used to represent geographic features?**

      Grid_Coordinate_System_Name: Universal Transverse Mercator
      Universal_Transverse_Mercator:
UTM_Zone_Number: 15
Transverse_Mercator:
Scale_Factor_at_Central_Meridian: 0.999600
Longitude_of_Central_Meridian: -93.0
Latitude_of_Projection_Origin: 0.000000
False_Easting: 500000.000000
False_Northing: 0.000000

      Planar coordinates are encoded using coordinate pair
      Abscissae (x-coordinates) are specified to the nearest 0.000007
      Ordinates (y-coordinates) are specified to the nearest 0.000007
      Planar coordinates are specified in meters

      The horizontal datum used is North American Datum of 1983.
      The ellipsoid used is Geodetic Reference System 80.
      The semi-major axis of the ellipsoid used is 6378137.000000.
      The flattening of the ellipsoid used is 1/298.257222.

7. **How does the data set describe geographic features?**

   Entity_and_Attribute_Overview:
   Refer to the NPS GRI Geology-GIS Geodatabase Data Model v. 2.3 (available at: <http://science.nature.nps.gov/im/inventory/geology/GeologyGISDataModel.cfm>) for detailed feature class and table attribute field parameters, definitions and domains, and implemented relationship classes, as well as for implemented feature class topology rules.
   Entity_and_Attribute_Detail_Citation:
   NPS GRI Geology-GIS Geodatabase Data Model v. 2.3. (available at: <http://science.nature.nps.gov/im/inventory/geology/GeologyGISDataModel.cfm>)

Who produced the data set?

1. **Who are the originators of the data set?** (may include formal authors, digital compilers, and editors)

- National Park Service (NPS) Geologic Resources Inventory (GRI) program

2. **Who also contributed to the data set?**

   James Winter, Dalton Meyer, Stephanie O'Meara, Chase Winters and James R. Chappell (Colorado State University)

3. **To whom should users address questions about the data?**

   Stephanie O'Meara
   Colorado State University
   Research Associate, Geologist/GIS Specialist/Data Manager
   1201 Oak Ridge Drive, Suite 200
   Fort Collins, Colorado 80525
   USA

   (970) 491-6655 (voice)
   stephanie.omeara@colostate.edu

   Hours_of_Service: 9:00 a.m. to 5:00 p.m. (MST), Monday - Friday

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Why was the data set created?

The data are intended to assist NPS personnel in the protection and management of Buffalo National River.

How was the data set created?

1. **From what previous works were the data drawn?**

   ARGS Digital Geologic Quadrangle Map DGM-AR-00111 (source 1 of 20)

   Chandler, A.K., Nondorf, L.M., Johnson, T.C., a, 2011, Geologic Map of the Buffalo City Quadrangle, Baxter and Marion Counties, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00111, Arkansas Geological Survey (ARGS), #SDPP#.

   Type_of_Source_Media: digital data and image
   Source_Scale_Denominator: 24000
   Source_Contribution:
   Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if

present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

ARGS Digital Geologic Quadrangle Map DGM-AR-00075 (source 2 of 20)

> Chandler, A.K., Johnson, T.C., Nondorf, L.M., a, 2011, Geologic Map of the Big Flat Quadrangle, Baxter, Marion and Searcy Counties, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00075, Arkansas Geological Survey (ARGS), Little Rock, Arkansas.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Scientific Investigations Map SIM-2991 (source 3 of 20)

> Hudson, M.R., and Turner, K.J., 2007, Geologic Map of the Boxley Quadrangle, Newton and Madison Counties, Arkansas: Scientific Investigations Map SIM-2991, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

ARGS Digital Geologic Quadrangle Map DGM-AR-00187 (source 4 of 20)

> Ausbrooks, S.A., Johnson, T.C., Nondorf, L.M., a, 2012, Geologic Map of the Cozahome Quadrangle, Marion and Searcy Counties, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00187, Arkansas Geological Survey (ARGS), Little Rock, Arkansas.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature

attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

ARGS Digital Geologic Quadrangle Map DGM-AR-00374 (source 5 of 20)

> Smart, E.E, and Hutto, R.S., 2008, Geologic Map of the Harriet Quadrangle, Searcy County, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00374, Arkansas Geological Survey (ARGS), Little Rock, Arkansas.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Scientific Investigations Map SIM-3314 (source 6 of 20)

> Hudson, M.R., and Turner, K.J., 2014, Geologic Map of the West-Central Buffalo National River Region, Northern Arkansas: Scientific Investigations Map SIM-3314, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

ARGS Digital Geologic Quadrangle Map DGM-AR-00590 (source 7 of 20)

> Braden, A.K., and Ausbrooks, S.M., 2003, Geologic Map of the Mt. Judea Quadrangle, Newton County, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00590, Arkansas Geological Survey (ARGS), Little Rock, Arkansas.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute

features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Scientific Investigations Map SIM-3360 (source 8 of 20)

> Hudson, M.R., and Turner, K.J., 2016, Geologic Map of the Murray Quadrangle, Newton County, Arkansas: Scientific Investigations Map SIM-3360, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

ARGS Digital Geologic Quadrangle Map DGM-AR-00532 (source 9 of 20)

> Hutto, R.S., and Smart, E.E., 2008, Geologic Map of the Marshall Quadrangle, Searcy County, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00532, Arkansas Geological Survey (ARGS), Little Rock, Arkansas.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

ARGS Digital Geologic Quadrangle Map DGM-AR-00680 (source 10 of 20)

> Braden, A.K., and Ausbrooks, S.M., 2003, Geologic Map of the Parthenon Quadrangle, Newton County, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00680, Arkansas Geological Survey (ARGS), Little Rock, Arkansas.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute

features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

ARGS Digital Geologic Quadrangle Map DGM-AR-00730 (source 11 of 20)

> Ausbrooks, S.A., Johnson, T.C., Nondorf, L.M., a, 2011, Geologic Map of the Rea Valley Quadrangle, Marion County, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00730, Arkansas Geological Survey (ARGS), Little Rock, Arkansas.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

ARGS Digital Geologic Quadrangle Map DGM-AR-00800 (source 12 of 20)

> Braden, A.K., and Ausbrooks, S.M., 2003, Geologic Map of the Snowball Quadrangle, Searcy County, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00800, Arkansas Geological Survey (ARGS), Little Rock, Arkansas.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

ARGS Digital Geologic Quadrangle Map DGM-AR-00269 (source 13 of 20)

> Braden, A.K., and Ausbrooks, S.M., 2003, Geologic Map of the Eula Quadrangle, Newton and Searcy Counties, Arkansas: Digital Geologic Quadrangle Map DGM-AR-00269, Arkansas Geological Survey (ARGS), Little Rock, Arkansas.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map

georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Scientific Investigations Map SIM-XXXX (source 14 of 20)

> Hudson, M.R., and Turner, K.J., 2018, Geologic Map of Osage SW Quadrangle, Newton, Madison, and Carroll Counties, Arkansas: Scientific Investigations Map SIM-XXXX, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Scientific Investigations Map SIM-2847 (source 15 of 20)

> Hudson, M.R., and Murray, K.E., 2004, Geologic Map of the Hasty Quadrangle, Boone and Newton Counties, Arkansas: Scientific Investigations Map SIM-2847, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Miscellaneous Field Studies Map MF-2356 (source 16 of 20)

> Hudson, M.R., Murray, K.E., and Pezzutti, Deb, 2001, Geologic Map of the Jasper Quadrangle, Newton and Boone Counties, Arkansas: Miscellaneous Field Studies Map MF-2356, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:

Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Scientific Investigations Map SIM-3134 (source 17 of 20)

> Turner, K.J., and Hudson, M.R., 2010, Geologic Map of the Maumee Quadrangle, Searcy and Marion Counties, Arkansas: Scientific Investigations Map SIM-3134, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Miscellaneous Field Studies Map MF-2412 (source 18 of 20)

> Hudson, M.R., and Murray, K.E., 2003, Geologic Map of the Ponca Quadrangle, Newton, Boone, and Carroll Counties, Arkansas: Miscellaneous Field Studies Map MF-2412, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Scientific Investigations Map SIM-3074 (source 19 of 20)

> Hudson, M.R., and Turner, K.J., 2009, Geologic Map of the St. Joe Quadrangle, Searcy and Marion Counties, Arkansas: Scientific Investigations Map SIM-3074, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000

Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

USGS Scientific Investigations Map SIM-2921 (source 20 of 20)

> Hudson, M.R., Turner, K.J., and Repetski, J.E, 2006, Geologic Map of the Western Grove Quadrangle, Northwestern Arkansas: Scientific Investigations Map SIM-2921, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

2. **How were the data generated, processed, and modified?**

Date: 17-Sep-2018 (process 1 of 1)
1.) GIS features were produced from source digital data or digitized from a source map. See the Source Information Contribution section(s) for specific source map details. GIS features converted from source digital data were imported into a GRI data model compliant geodatabase. For details on the GRI data model see the NPS GRI Geology-GIS Geodatabase Data Model v. 2.3 (available at: <http://science.nature.nps.gov/im/inventory/geology/GeologyGISDataModel.cfm>). GIS features captured from a source map were digitized from a TIF image of the map georeferenced in NAD83 UTM. 2.) Line quality of digitized features was checked against the source scan to ensure that GIS features were represented accurately, both positionally and spatially. Line quality of digital data was checked and if warranted edited to ensure good quality linework. 3.) Feature attribution was derived for all features using the source data attribution and the source printed/plotted map if available. 4.) Data Model topology rules were validated on all features and any topology errors corrected. 5.) Quality control (QC) consisted of checking features and their attribution against the source digital data, as well as against the source printed/plotted map if available. A GRI developed ArcObjects tool was run to check for GRI data model validation and feature-related consistency. 6.) The UNIT and MAP tables were populated and checked against the source(s). Relationship classes were also added and used to ensure attribution consistency between feature class and table attribution. 7.) Feature symbology was produced for all

feature classes. An attempt was made to best match symbology to its source map, however, in some cases features symbology maybe slightly modified, primarily based on the limitations of the ArcGIS geology styles. In some cases, however, symbology may have been modified to reconcile differences from multiple sources. 8.) An ArcMap Document was produced, in part by a GRI finalize mxd tool, and layer (.lyr) files saved for all data layers. 9.) The ancillary map information PDF document, see the Supplemental Information section for additional information, was produced from textual information and figures present on the source map(s) and/or in digital data files. If applicable, source map images were produced at 150dpi or greater resolution and optical character recognition (OCR) software was used to produce text from source map text. The text, source map images and other ancillary source map information were added to a Help & Manual (.hmxz) template file. The .hmxz file was then compiled to produce the ancillary map information document. Any compilation errors were then checked and corrected and the document was reviewed for content, usability and grammatical errors. 10.) A Google Earth .kmz/.kml file was produced from the finalized ArcMap document and geodatabase with certain UNIT table fields appended to each feature class prior to export.

Person who carried out this activity:

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Hours_of_Service: 9:00 a.m. to 5:00 p.m. (MST), Monday - Friday

Data sources used in this process:

- ARGS DGM-AR-00111, ARGS Map DGM-AR-00075, USGS SIM-2991, ARGS Map DGM-AR-00187, ARGS Map DGM-AR-00374, USGS Map SIM-3314, ARGS Map DGM-AR-00590, USGS Map SIM-3360, ARGS Map DGM-AR-00532, ARGS Map DGM-AR-00680, ARGS Map DGM-AR-00730, ARGS Map DGM-AR-00800, ARGS Map DGM-AR-00269, USGS Map SIM-XXXX, USGS Map SIM-2847, USGS Map MF-2356, USGS Map SIM-3134, USGS Map MF-2412, USGS Map SIM-3074, USGS Map SIM-2921

3. **What similar or related data should the user be aware of?**

National Park Service Geologic Resources Inventory (GRI) program, 20180917, Metadata for the Unpublished Digital Geologic-GIS Map of Buffalo National River and Vicinity, Arkansas (NPS, GRD, GRI, BUFF, BUFF digital map).

How reliable are the data; what problems remain in the data set?

1. **How well have the observations been checked?**

   Feature and table attribution was derived and checked with the source map(s). Attribution was checked (QCd) for errors. Users of this data are advised to FULLY and CAREFULLY READ the "DISTRIBUTION LIABILITY" section of this metadata before using the data.

2. **How accurate are the geographic locations?**

   Data was produced from digital source data and digitized from a georeferenced source map .TIF image(s) (300dpi). Users of this data are cautioned about the locational accuracy of features within this dataset. Based on the source map scale and United States National Map Accuracy Standards features are within (horizontally) 12.2 meters or 40 feet of their actual location as presented by this dataset. Users of this data should thus not assume the location of features is exactly where they portrayed are in ArcGIS or other software used to display this dataset. The PRECISION of any Shapefile (.shp) files is DOUBLE. The maximum root mean square (RMS) horizontal accuracy of the georeferenced image as measured in ArcMap is 4.2 meters. Coordinate tics on the georeferenced (registered and rectified) source map image(s) were checked against control points that had the exact specified coordinates of the tic. The direct distance between the image tic and its control point were measured. All measured distances were less than 50% of the required distance to meet National Map Accuracy Standards (1/50th of an inch for maps at 1:20,000 scale and smaller). Features were checked (QCd) after digitizing for positional accuracy errors using the georeferenced source map image.

3. **How accurate are the heights or depths?**

   No vertical coordinates are present in this GRI digital dataset.

4. **Where are the gaps in the data? What is missing?**

   All data is considered complete to the extent of the source map(s).

5. **How consistent are the relationships among the observations, including topology?**

   GIS data in 10.1 file geodatabase and 2.2 KML/KMZ file formats.

How can someone get a copy of the data set?

Are there legal restrictions on access or use of the data?

Access_Constraints: None
Use_Constraints:

Not for use at scale greater than 1:24,000 (source map scale). Users of this data are cautioned about the locational accuracy of features within this dataset. Based on the source map scale and United States National Map Accuracy Standards features are within (horizontally) 12.2 meters or 40 feet of their actual location as presented by this dataset. Users of this data should thus not assume the location of features is exactly where they are portrayed in Google Earth, ArcGIS or other software used to display this dataset.

1. **Who distributes the data set?** (Distributor 1 of 1)

Stephanie O'Meara
Colorado State University
Research Associate, Geologist/GIS Specialist/Data Manager
1201 Oak Ridge Drive, Suite 200
Fort Collins, Colorado 80525
USA

(970) 491-6655 (voice)
stephanie.omeara@colostate.edu

Hours_of_Service: 8:00 a.m. to 4:00 p.m. (MST), Monday - Friday
Contact_Instructions:
GRI data are available at: <http://irma.nps.gov/App/Reference/Search>

2. **What's the catalog number I need to order this data set?**

```
GIS map data available in 10.1 file geodatabase format (in
buff_geology_gdb.zip) and in 2.2 KML/KMZ format (in
buff_geology_kml.zip)
```

3. **What legal disclaimers am I supposed to read?**

The National Park Service shall not be held liable for improper or incorrect use of the data described and/or contained herein. These data and related graphics are not legal documents and are not intended to be used as such.

The information contained in these data is dynamic and may change over time. The data are not better than the original sources from which they were derived. It is the responsibility of the data user to use the data appropriately and consistent within the limitations of geospatial data in general and these data in particular. The related graphics are intended to

aid the data user in acquiring relevant data; it is not appropriate to use the related graphics as data.

The National Park Service gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of these data. It is strongly recommended that these data are directly acquired from an NPS server and not indirectly through other sources which may have changed the data in some way. Although these data have been processed successfully on a computer system at the National Park Service, no warranty, expressed or implied is made regarding the utility of the data on another system or for general scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies to both to individual use of the data and aggregate use with other data.

4. **How can I download or order the data?**
    - **Availability in digital form:**

Data format:	GDB (version ArcGIS 10.1) GIS (geodatabase format) map download (buff_geology_gdb.zip) Size: 19.2
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/
Data format:	KML/KMZ (version 2.2) Google Earth (kml/kmz format) map download (buff_geology_kml.zip) Size: 33.6
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/
Data format:	PDF (version 9) Ancillary Map Information Document Size: 59.43
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/
Data format:	PDF (version 9) GIS Readme Document Size: 0.1
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/
Data format:	PDF (version 9) FAQ Metadata File Size: 0.1
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/

    - **Cost to order the data:** None
    - **Special instructions:**

        Search and download GRI data at:
        <http://irma.nps.gov/App/Reference/Search>

Who wrote the metadata?

Dates:

Last modified: 17-Sep-2018

Metadata author:

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Research Associate, Geologist/GIS Specialist/Data Manager
1201 Oak Ridge Drive, Suite 200
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Hours_of_Service: 9:00 a.m. to 5:00 p.m. (MST), Monday - Friday

Metadata standard:

FGDC Content Standards for Digital Geospatial Metadata (FGDC-STD-001-1998)

Metadata extensions used:

- <http://www.fgdc.gov/standards/>

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